APPENDIX A



Other (Trip / Source /

__ Type: ____

No. of Containers: _____ No. of Containers: _____

Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 04-4428.10 Project No: Telephone: (909) 396-7662 Navy Contract No.: <u>N68711-01-D-6008, D.O. No. 00</u>01 Fax: (909) 396-1455 Sampled By: Dale Erbes and J. Robinson Date: 11/10/03 Warm and Sunny_____ Weather: PURGE VOLUME CALCULATION (casing volume): Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: _____ X Pump – Type: 2" Grundfos Depth in feet (BTOC): FIELD PARAMETER MEASUREMENT Depth to Dissolved Total Turbidity Time Water Discharge рΗ Conductivity Oxygen Temp **ORP** Comments (Feet) (Gallons) (mS/cm) (NTU) (mg/L) (° C) (mV) 1006 40.42 65.7 4.27 0.0 7.30 2.1 18.02 215 7.40 17.48 224 1016 30.0 63.5 0.00 11.16 1026 60.0 7.40 63.7 0.00 5.12 17.30 217 1036 90.0 7.44 63.3 0.00 4.42 17.31 226 1046 120.0 7.50 62.7 0.00 10.62 17.29 237 1056 7.54 62.5 238 150.0 0.00 10.10 17.45 1058 40.42 7.53 62.5 0.00 10.21 17.70 235 156.0 Total Purge Volume: 156 (Gallons) Total Discharge: 3.00 (Casing Volumes) 3.0 (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Purge Start: 1006; clear and odorless **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank trailer

ORIGINAL FIELD RECORD

_____ Type: ___

 Sample Time:
 1100
 Sample Time:
 Sample ID:
 Sample ID:

 No. of Containers:
 5
 No. of Containers:
 Sample Time:
 Sample Time:

Blank

Purge water disposal: _____combination_

Sample Depth in feet (BTOC):

Duplicate

MW-1 Sample ID: ___

WELL SAMPLING

Original

Sample ID: ____



Other (Trip / Source /

_____ Type: ____

No. of Containers: _____ No. of Containers: _____

Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Sampled By: Dale Erbes and J. Robinson Date: 11/6/03 Weather: Cool and Sunny PURGE VOLUME CALCULATION (casing volume): 75.38 126.55 Gallons WL (feet) D (inches) Calculated Purge Volume TD (feet) **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: X Pump – Type: 2" Grundfos Depth in feet (BTOC): _____ FIELD PARAMETER MEASUREMENT Dissolved Depth to Total Conductivity Time Water Discharge рΗ **Turbidity** Oxygen Temp **ORP** Comments (Feet) (Gallons) (mS/cm) (NTU) (mg/L) (° C) (mV) 37.2 9.19 15.28 0752 75.38 0.0 7.20 36 226 H2O was pale yellow and odorless 22.5 7.08 9.02 218 0802 36.3 0.35 16.34 0812 45.0 7.07 36.1 0.70 10.42 16.36 223 0822 67.5 7.12 35.6 0.60 9.86 17.31 225 0832 90.0 7.19 35.4 0.35 10.37 18.56 225 7.19 228 0842 112.5 36.1 4.8 10.06 17.93 0852 75.38 7.25 36.3 0.45 9.90 18.93 240 135.0 Total Purge Volume: (Gallons) 3.20 (Casing Volumes) Total Discharge: 2.25 __ (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Purge time start: 0752; clear and odorless **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank trailer Purge water disposal: combination WELL SAMPLING

ORIGINAL FIELD RECORD

Blank

No. of Containers: ______ 5 Sample Time: ______ Sample Time: _____

Sample Depth in feet (BTOC):

No. of Containers: ____5

MS/MSD-4

MW-5 Sample ID: MW-5 Type:

Original

Sample ID:



Other (Trip / Source /

No. of Containers: _____ No. of Containers: _____

Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Dale Erbes and J. Robinson Sampled By: Date: 11/7/03 Weather: Sunny and Cool PURGE VOLUME CALCULATION (casing volume): Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: X Pump – Type: 2" Grundfos Depth in feet (BTOC): FIELD PARAMETER MEASUREMENT Dissolved Depth to Total Turbidity Time Water Discharge Conductivity Oxygen Temp **ORP** Comments рΗ (NTU) (Feet) (Gallons) (mS/cm) (mg/L) (° C) (mV) 0816 180.95 23 8.09 19.91 0 6.32 0.103 347 H2O was cloudy and odorless 11 329 0831 30 6.51 0.999 8.62 20.62 0846 6.58 0.90 2.9 10.27 20.00 337 0901 90 6.78 99.9 0.95 9.22 20.99 221 0916 120 6.79 0.1 0.20 8.55 21.14 220 0924 180.95 135 6.73 0.999 0.15 9.84 22.01 333 Total Purge Volume: (Gallons) Total Discharge: 3.25 (Casing Volumes) 2.0 (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Pump start: 0812; Purge Start: 0816; clear and odorless_ **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank Trailer Purge water disposal: ____combination_

ORIGINAL FIELD RECORD

 Sample Time:
 0926
 Sample Time:
 Sample ID:
 Sample ID:

 No. of Containers:
 5
 No. of Containers:
 Sample Time:
 Sample Time:

Blank

__ Type: __

WELL SAMPLING

Original

Sample ID:

Sample Depth in feet (BTOC):

MS/MSD

MW-6 Sample ID:



Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Dale Erbes and J. Robinson Sampled By: Date: 11/10/03 Weather: Cool and Sunny PURGE VOLUME CALCULATION (casing volume): 215.10) X 4² X 3 WL (feet) D (inches) # Vols Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: _____ X Pump – Type: 2" Grundfos Depth in feet (BTOC): FIELD PARAMETER MEASUREMENT Dissolved Depth to Total Time Water Discharge рΗ Conductivity **Turbidity** Oxygen Temp **ORP** Comments (Feet) (Gallons) (mS/cm) (NTU) (mg/L) (° C) (mV) 49.9 18.20 0818 215.10 0.0 6.64 0.00 8.15 240 22.5 51.7 236 6.74 0.00 8.04 19.72 0833 0848 45.0 6.90 0.2 0.00 7.55 19.10 257 0903 67.5 6.98 53.5 0.00 8.03 19.43 239 0918 90.0 7.07 53.8 0.00 9.34 21.26 241 9.75 22.74 0933 112.5 7.13 54.6 0.00 246 0938 215.10 55.4 0.00 11.12 22.19 244 120.0 7.28 Total Purge Volume: (Gallons) 3.07 (Casing Volumes) Total Discharge: 1.5 (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Pump Start: 0814; Purge Start: 0818; clear and odorless **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) **WATER DISPOSAL** Purge water storage: Polytank Trailer Purge water disposal: Combination WELL SAMPLING Sample Depth in feet (BTOC): Original MS/MSD Additional Sampling Other Sample ID: MW-7 Sample ID: Type: Type:

ORIGINAL FIELD RECORD

Sample ID:

Sample Time: ____

No. of Containers:

Sample ID:

Sample Time:_____

No. of Containers: _____

Sample Time: 0940 Sample Time:

No. of Containers: 5

No. of Containers:



__ Type: ____

No. of Containers: _____ No. of Containers: _____

Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Dale Erbes and J. Robinson Sampled By: Date: 11/6/03 Weather: Cool and Sunny PURGE VOLUME CALCULATION (casing volume): 141.58 X 4² D (inches) Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: X Pump – Type: 2" Grundfos Depth in feet (BTOC): FIELD PARAMETER MEASUREMENT Dissolved Depth to Total ORP Time Water Discharge рΗ Conductivity **Turbidity** Oxygen Temp Comments (Feet) (Gallons) (mS/cm) (NTU) (mg/L) (° C) (mV) 0923 7.19 42.8 3.3 18.03 227 141.58 0 11.48 7.21 41.9 223 0938 30 1.1 9.81 17.64 0953 60 7.30 41.8 1.2 10.98 18.01 217 1008 90 7.39 41.9 0.60 9.74 18.02 229 1023 120 7.40 41.2 0.60 10.77 18.06 230 7.37 226 1031 141.58 130 43.0 0.00 9.37 18.46 Total Purge Volume: 130 (Gallons) Total Discharge: 3.14 (Casing Volumes) 2.0___ (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING NOTES:** (well condition, color, clarity, odor): Purge Start: 0918; clear and odorless; **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank Trailer____ Purge water disposal: ____Combination_ **WELL SAMPLING** Sample Depth in feet (BTOC): Other (Trip / Source / **Duplicate** Blank **Original**

ORIGINAL FIELD RECORD

No. of Containers: _____ 5 ___ Sample Time: _____ Sample Time: _____

Sample Time: ______ Sample Time: _____ Sample ID: ______ Sample ID: ______ Sample ID: ______

MW-8 Sample ID: <u>Dupe-7-4-Q03</u> Type: ___

Sample ID:

No. of Containers: _____5



Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Dale Erbes and J. Robinson Sampled By: Date:_____ 11/5/03 Weather: Warm and Sunny PURGE VOLUME CALCULATION (casing volume): 32.45) X _____ 4² D (inches) Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: _____ X Pump – Type: 2" Grundfos Depth in feet (BTOC): FIELD PARAMETER MEASUREMENT Depth to Dissolved Total Conductivity рΗ Turbidity ORP Time Water Discharge Oxygen Temp Comments (Gallons) (NTU) (Feet) (mS/cm) (mg/L) (° C) (mV) 0925 32.45 0 25 4.00 6.95 69.0 19.59 241 H2O was black and had medium odor 0930 15 6.68 64.5 3.28 19.31 240 29 0935 30 6.76 60.8 9.85 18.74 237 0940 45 6.84 60.1 27 9.75 18.70 225 0945 60 6.90 60.4 14 4.90 18.47 217 32.45 0950 6.95 60.1 5.4 4.31 19.26 215 Total Purge Volume: 75 (Gallons) Total Discharge: 3.23 (Casing Volumes) 3 (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Purge Start: 0923; clear and odorless; RECHARGE BEHAVIOR: X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank Purge water disposal: _____100____ WELL SAMPLING Sample Depth in feet (BTOC): _____ Other (Trip / Source / Duplicate Blank Original

ORIGINAL FIELD RECORD

_____ Sample ID: _____ Sample ID: ____

No. of Containers: _____ No. of Containers: _____

No. of Containers: _____ Sample Time: _____ Sample Time: ____

0952

No. of Containers: 5

Sample Time: _____

___Sample Time: ___



__ Type: ____

No. of Containers: _____ No. of Containers: _____

Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Dale Erbes and J. Robinson Sampled By: Date: 11/6/03 Weather: Cold and clear PURGE VOLUME CALCULATION (casing volume): Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: ______ **X** Pump – Type: <u>2" Grundfos</u> Depth in feet (BTOC): _____ FIELD PARAMETER MEASUREMENT Depth to Dissolved Total Conductivity Turbidity ORP Time Water Discharge рΗ Oxygen Temp Comments (NTU) (Feet) (Gallons) (mS/cm) (mg/L) (° C) (mV) 0644 89.38 25 19 9.04 16.08 5.32 0.118 337 50 2.4 211 0654 6.44 0.999 8.33 17.70 0704 75 0.9996.62 0.35 8.66 18.35 323 0714 100 6.74 0.999 0.05 8.31 18.17 220 0724 125 6.85 0.1 0.05 9.58 17.40 216 89.38 8.16 0728 130 6.84 0.1 0.05 18.19 217 Total Purge Volume: 130 (Gallons) Total Discharge: 3.03 (Casing Volumes) 2.5 (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Purge Start: 0639; clear and odorless; **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank Trailer Purge water disposal: _____ _Combination_ **WELL SAMPLING** Sample Depth in feet (BTOC): Other (Trip / Source / Blank **Original Duplicate**

ORIGINAL FIELD RECORD

_____ Type: ____

 Sample Time:
 O728
 Sample Time:
 Sample ID:
 Sample ID:

 No. of Containers:
 5
 No. of Containers:
 Sample Time:
 Sample Time:

MW-10 Sample ID:

Sample ID: _____



Other (Trip / Source /

__ Type: ____

No. of Containers: _____ No. of Containers: _____

Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Dale Erbes and J. Robinson Sampled By: Date: 11/7/03 Weather: Cool and Clear PURGE VOLUME CALCULATION (casing volume): 183.72) X 4² D (inches) Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: X Pump – Type: 2" Grundfos Depth in feet (BTOC): _____ FIELD PARAMETER MEASUREMENT Dissolved Depth to Total Time Water Discharge рΗ Conductivity **Turbidity** Oxygen Temp **ORP** Comments (NTU) (Feet) (Gallons) (mS/cm) (mg/L) (° C) (mV) 0714 5.79 12 16.75 225 183.72 0 64.1 8.65 0722 20 5.95 57.2 7.65 228 1.8 18.83 0730 229 6.04 56.8 0.45 7.58 19.29 0738 60 6.11 56.8 0.05 7.81 19.41 227 0746 80 6.19 57.1 0.00 7.98 18.56 219 0754 183.72 8.45 100 6.38 57.5 0.00 18.03 216 Total Purge Volume: 100 (Gallons) Total Discharge: 2.98 (Casing Volumes) 2.5 (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Pump Start: 0712; Purge Start: 0714; clear and odorless; **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank Trailer Purge water disposal: _____ _Combination_ **WELL SAMPLING** Sample Depth in feet (BTOC):

ORIGINAL FIELD RECORD

 Sample Time:
 0757
 Sample Time:
 0757
 Sample ID:
 Sample ID:

 No. of Containers:
 5
 No. of Containers:
 5
 Sample Time:
 Sample Time:

Blank

MS/MSD-5

MW-13 Sample ID: MW-13 Type: ___

Original

Sample ID:



Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Dale Erbes and J. Robinson Sampled By: Date: 11/7/03 Weather: Sunny and Luke Warm PURGE VOLUME CALCULATION (casing volume): 45.24) X ______ (1) X _____ (2) D (inches) Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: _____ **X** Pump – Type: <u>2" Grundfos</u> Depth in feet (BTOC): _____ FIELD PARAMETER MEASUREMENT Dissolved Depth to Total ORP Time Water Discharge рΗ Conductivity **Turbidity** Oxygen Temp Comments (Feet) (Gallons) (mS/cm) (NTU) (mg/L) (° C) (mV) 0941 7.02 59.8 17.51 45.24 0.0 5.1 11.06 218 7.06 57.2 212 0946 12.5 1.6 11.17 16.88 0951 25.0 7.08 56.6 3.5 10.94 17.26 206 0956 37.5 7.14 57.3 7.1 6.99 16.67 202 1001 50.0 7.11 56.6 2.7 10.01 17.25 205 45.24 7.13 1006 62.5 56.5 1.2 9.21 18.86 213 Total Purge Volume: 62.5 (Gallons) Total Discharge: 3.33 __ (Casing Volumes) 2.5 (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Pump Start: 0938; Purge Start: 0941; clear and odorless; **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank Trailer Purge water disposal: ___Combination_ **WELL SAMPLING** Sample Depth in feet (BTOC): Other (Trip / Source / Blank **Original Duplicate**

ORIGINAL FIELD RECORD

 Sample Time:
 1003
 Sample Time:
 1007
 Sample ID:
 Sample ID:

 No. of Containers:
 5
 No. of Containers:
 5
 Sample Time:
 Sample Time:

__ Type: ___

__ Type: ____

No. of Containers: _____ No. of Containers: _____

MW-15 Sample ID: Dupe-2-4-Q03

Sample ID: ____



Project Name: Quarterly Monitoring at JPL, Pasadena, CA. 22632 Golden Springs Dr., Suite 270 Diamond Bar, CA 91765 Project No: 04-4428.10 Telephone: (909) 396-7662 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001 Fax: (909) 396-1455 Sampled By: Dale Erbes and J. Robinson Date: 11/10/03 Weather: Cool and Clear PURGE VOLUME CALCULATION (casing volume): 237 X L (feet) X (fe Gallons Calculated Purge Volume **PURGE METHOD PUMP INTAKE SETTING** Bailer – Type: X Pump – Type: 2" Grundfos Depth in feet (BTOC): FIELD PARAMETER MEASUREMENT Dissolved Depth to Total Conductivity ORP Time Water Discharge рΗ **Turbidity** Oxygen Temp Comments (Feet) (Gallons) (mS/cm) (NTU) (mg/L) (° C) (mV) 62.5 3.9 8.39 15.84 0651 237 0.0 5.51 273 22.5 5.79 7.06 0708 0.2 0.00 18.48 267 0723 45.0 5.95 47.4 0.00 6.83 18.90 250 0738 67.5 6.14 47.1 0.00 7.02 18.87 247 0753 90.0 6.32 47.3 0.30 7.29 17.48 244 237 8.76 0801 101.25 6.41 47.6 0.00 18.96 243 Total Purge Volume: 101.25 (Gallons) 3.23 (Casing Volumes) Total Discharge: 1.5 (GPM) Approx. Purge Rate: **OBSERVATIONS DURING PUMPING** NOTES: (well condition, color, clarity, odor): Pump Start: 0647; Purge Start: 0649; clear and odorless; **RECHARGE BEHAVIOR:** X Fast recharging Slow recharging (80% recharge did not occur after two hours) WATER DISPOSAL Purge water storage: Polytank Trailer Purge water disposal: _____Combination_ **WELL SAMPLING** Sample Depth in feet (BTOC): MS/MSD Additional Sampling Additional Sampling **Original** Sample ID: MW-16 Sample ID: ____ _____ Type: ____ ____ Type: ____ Sample ID:____ Sample ID: Sample Time: ______Sample Time: _____ No. of Containers: _____5 No. of Containers: Sample Time: Sample Time:

ORIGINAL FIELD RECORD

No. of Containers:

No. of Containers: _____



Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008 Delivery Order #: 0001

Well ID: <u>Hw-11</u>

Date: 10.22.03

Page:

Water Pressure Inside Casing:

Depth (ft): <u>139, 524, 429, 259</u> Finish Time: <u>0936</u>

Beginning of Session: <u>14.26</u>

End of Session: <u>14.26</u> End of Session: 19. 23

| | | | | Surface | Function Cl | hecks | r | | Position Sampler | | | | Samp | ole Colle | ection Chec | ks | · | | | Wate | r Quality | Paramet | ers |] |
|--|-----------------|-------------|------------------------------------|---------|-----------------------|----------|----------|-----------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----------------|------------|-------------------|------|------|----------------|---------|-----------------|--------|
| Por # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. | Cond (mmhos) | |
| 5 | 1 | 1 | · | L | | | - | ~ | | 2 | 172.52 | v | 223.42 | ~ | 223.24 | 1 | ~ | 172.59 | 6739 | 5.03 | 2.0 | 19.24 | 0.4 | 5 |
| 7 | 17 | | <u> </u> | <u></u> | <i>V</i> | <u> </u> | <u> </u> | 2 | | 1 | 123.21 | | 181.52 | | 181.31 | <u>س</u> | ~ | 123.12 | 0803 | 6.04 | 0.40 | 19.18 | 32.8 | 54 |
| 13 | 15 | V | | <u></u> | <u></u> | | <u></u> | <u>س</u> | | 1 | 82.72 | | 138.53 | | 138.37 | ~ | ~ | 82.81 | 0834 | 6.05 | 1.80 | 20.25 | 45.2 | 53 |
| 2 | 2 | | | | V | | ~ | | | 1 | 14.24 | 1/ | 66.20 | | 1de. 14 | 1 | 2 | 14.31 | 0904 | 4.75 | 5.1 | 21.19 | 44.0 | حَارَا |
| 1 | - - | | | | | | V | 1 | | - | 14.21 | | 27.01 | <u>بر</u> | 27.00 | 1 | 2 | 14.29 | 0927 | 6.52 | 0.35 | 24.62 | 54.1 | >1 |
| | | | | | | | | | | | | <u> </u> | | | | | | | | | | | | 1 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
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| $ldsymbol{ldsymbol{ldsymbol{ldsymbol{eta}}}$ | <u> </u> | | | | | | | | | | | | | | | | | | | | | | | |
| <u> </u> | | | | | | | | | | | | | | | | | | | | | | | | |
| <u> </u> | <u> </u> | | | | | | | | | | | | | | | | | | | | | | | |
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| | <u> </u> | | | | | | | | | | | | | | | | | | | | | | | ĺ |

| Notes: | | | Total Volume: | |
|-------------------------------------|-------|----------|----------------|--|
| 5: Clear & adaless 4: | clear | 4 odalos | Total volunie. | |
| 3: beautist of dark willows more 2: | 11 | 1) | | |
| 1: Clear + ortaliss | | | | |



Multi-Port Well Field Data Sheet

| / | 3 |) |
|---|---------------|---|
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| JPL Pasadena | JPI | _ Pa | sa | de | na |
|--------------|-----|------|----|----|----|
|--------------|-----|------|----|----|----|

Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: HW-22

Depth (ft): $\frac{5-1}{588,447,389}$, 329, 245 Start Time: $\frac{1000}{1/43}$ Beginning of Session: $\frac{14.19}{1900}$ End of Session:

| | | | | Surface | Function CI | hecks | | | Position Sampler | | | | Samp | le Colle | ection Chec | ks | | | <u> </u> | Wate | r Quality | Paramet | ters |] |
|----------|----------|-------------|------------------------------------|---------|-----------------------|-------|----------|-----------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----------------|------------|-------------------|----------|------|----------------|---------------|-----------------|------------|
| # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 5 | 2 | ~ | 1 | ~ | | | | ~ | ~ | 2 | 202.12 | ~ | 190.90 | V | 19091 | ~ | 1 | OC. 25 | mas | 2.95 | 0.90 | 23.11 | 4/1.0 | \ } |
| 4 | 2 | 2 | ~ | V | | | V | ~ | 1 | ~ | 149.71 | V | 139.78 | V | 139.75 | V | 2 | 149.71 | 2035 | 7.83 | 0.80 | 21.79 | 36.1 | 54 |
| 3 | 2 | ~ | | ~ | | ~ | 2_ | _ | ــــــ | V | 115.75 | ~ | 107.45 | 2 | 107.47 | 1 | V | 115.84 | ASST | 2.44 | 0.20 | 22.15 | 54.1 | 3 < |
| 2 | 2 | ~ | | V | ~ | | | v | ~ | <u></u> | 89.8-1 | 1 | 81.36 | ~ | 81.37 | ~ | ~ | 89.81 | 1114 | 7.52 | 1.3 | 22.1 | 51.3 | 2 |
| 2 | 2 | ~ | | ~ | <u>~</u> | 1 | <u>~</u> | 7 | | 2 | 53.18 | ~ | 44.60 | V | 44-63 | V | ~ | 53.15 | 1134 | 7.24 | 19 | 20.03 | 0.99 |]>/ |
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| Notes: 5: Clear + Odolless | , 4: cleant | adalis | 3: Chan + Ochours | Total Volume: |
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Multi-Port Well Field Data Sheet

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JPL Pasadena

Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: $\cancel{M}\cancel{U} - \cancel{\cancel{+}} 23$ Sampling Zone No.: $5 - \cancel{/}$ Start Time: $\cancel{O}\cancel{\cancel{+}}\cancel{\cancel{+}}\cancel{\cancel{-}}$ Depth (ft) $\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}\cancel{\cancel{-}}$ Beginning of Session: $\cancel{\cancel{-}}\cancel{\cancel{-$

Date: /o ⋅ 23 ⋅ 0 3

End of Session:

| | | | (| Surface | Function C | hecks | | | Position Sampler | | | | Samp | ole Colle | ection Chec | cks | | | | Wate | r Quality | Parame | ters | |
|-----------|----------|-------------|------------------------------------|---------|-----------------------|-------|------------|------------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----------------|------------|-------------------|----------|------|----------------|---------------|-----------------|-----------------------|
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | 1 | Evacuate Container | | Shoe in | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 5 | 2 | ~ | ~ | 1/ | | | | V | V | 2 | 20060 | ~ | 200.12 | V | 199.83 | 1 | V | 208.62 | 0205 | 5.69 | 2.6 | 19.06 | 555 | 155 |
| 4 | 2 | <u></u> | | ~ | | | ~ | ~ | | | 166.59 | | 158.18 | | 158.18 | | V | 208.62 | 0726 | 6.57 | 6 -00 | 19.20 | 36.2 | 154 |
| 3 | 2 | - | ~ | ~ | 1 | | | سرا | | | 111.99 | | 105.07 | | 105.04 | ~ | 1 | 111.97 | 048 | 162 | 2.6 | 18.99 | 39.5 | ٤٤ |
| 2 | 2 | 1 | レ | 1 | ~ | - | | <u>اسا</u> | ~ | 1 | 83 76 | | 76.84 | | 26.87 | | - | 83.78 | 0815 | 9.01 | 1.8 | R.13 | 90.0 | |
| 2 | 2 | 1 | <u></u> | 1 | | ٧ | | <u></u> | | ٠. | 83.88 | 1 | 26.84 | ~ | 74.84 | V | ~ | 83.75 | 0837 | 2.22 | 4.0 | 19.53 | 93.5 | 715/145 2 |
| 1 | <u>-</u> | V | ~ | / | V | 1 | / | | | | 49,23 | V | 42.63 | ν | 42.42 | | 1 | 49.23 | 0855 | 2.25 | 4.7 | +7.67 | 0.094 | \mathcal{V}_{2}^{2} |
| <u> </u> | | | | | | | | | | | | | | | | | | | | | | 25.91 | | |
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| Notes: 5: Char + Odaleso. | 4: Clean | 4 Odalisa | , 3'. Clea | 4 odoleso. | Total Volume: | |
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Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: MW-12

Depth (ft): 5-1 Start Time: 1027

Depth (ft): 548, 434, 323, 243+140 Finish Time: 1249

Beginning of Session: 14.//

| Out Valve Open Container (| Valve Shoe Arm In | Locate Port | Arm Pressur in MP 203.8 155.4 105.3 105.1 25.1 | Out \$ \(\sigma \) 2 \(\sigma \) 8 \(\sigma \) | Zone Pressure 201.47 155.87 107.13 72.48 29.44 99.43 | 1 1 1 1 1 | Zone Pressure 2-1.46 155.72 107.17 72.73 29.44 | Valve | | Pressure in MP 2-3.2 154.50 105.17 10.29 25.79 25.75 | 8 10.46 1107 1128 1146 1208 | 7.43 7.68 7.95 7.87 7.78 | 0.40 2.3 1.5 253.9 | 23.21 23.6° 23.44 25.3 | 47.3 41.6 48.9 54.4 |
|---|---|-------------|---|--|---|-----------|--|---------------------------------------|-------------|--|---|--------------------------------------|-----------------------------|---------------------------------|------------------------------|
| 1 2 | | | 15\$.4 105.2 105.2 25.70 | 2 1 2 8 5 6 | 155.87 107.13 72.48 29.44 | 1 1 1 | 155.72 107.17 72.73 29.41 | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | V V V | 154.50 105.17 10.29 25:79 | 1107 1128 1146 1208 | 7.68 7.95 7.87 7.78 | 0.40 2.3 1.5 253.9 | 23.21 23.6° 23.44 25.3 | 47.3 41.6 48.9 54.4 |
| 3 2 V V V V V 2 2 2 V V V V V V V V V V | V V V V | | / 105.70 / 10.2 / 25.70 | 1 2 5 | 107.13 72.48 29.44 | 1 | 107.17 72.73 29.44 | V V | レレ | 154.50 105.17 10.29 25:79 | 1107 1128 1146 1208 | 7.68 7.95 7.87 7.78 | 0.40 2.3 1.5 253.9 | 23.21 23.6° 23.44 25.3 | 47.3 41.6 48.9 54.4 |
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| 11-00 | レレレ | - , | 25:70 | e - | 29.4 | 1 | 29.41 | ~ | V | 25.79 | 1208 | 278 | <u> 25</u> 3.9 | 25.3 | 54.4 |
| | | | | 4 | | | | | | 25.75 | 1208 1233 | <u>7.78</u> <u>7.95</u> | 8.4 | 25.3 | 59.4 53.8 |
| | | | 25.4 | | 29.43 | | 29.114 | | ~ | 25.75 | <i>12</i> 33 | <u>7.95</u> | 8.4 | 22.80 | 53.8 |
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| Notes: 5: Clean 2 adoless | , 4: clear | +odoless. | 3: Clear + odolpo, | 2: Clean + odales | Total Volume: |
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Multi-Port Well Field Data Sheet

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Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: MW-20

Depth (ft): 900, 700, 562, 392 + 230 Finish Time: 0952

Beginning of Session: 14.07

End of Session: 14.16

| | | | | Surface | Function Cl | hecks | | | Position Sampler | | ` | | Samp | ole Colle | ection Chec | ks | | | | Wate | r Quality | Parame | ters | |
|-----------|----------|-------------|------------------------------------|---------|-----------------------|----------|---|-----------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----|------------|-------------------|------|-------|----------------|---------------|-----------------|-----|
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 5 | 1 | ~ | | | | 1 | ~ | ~ | - | | 303.93 | V | 321.79 | ~ | 321.77 | V | ~ | 303.87 | 0721 | 4.17 | 0.2- | 17.01 | 40.1 | >5 |
| 4 | 2 | | | | | | | / | ~ | ~ | 216.77 | ~ | 230.34 | ~ | 230.29 | | - | 216.79 | 0757 | 6.95 | 4.4 | 14.39 | 31.8 |]>4 |
| 5 | 2 | 1 | 1/ | | | | V | - | \ | ~ | 302.96 | | 748B | | 321.79 | | - | 3.0.15 | 0815 | 252 | 0.15 | | 3.7 | عرا |
| 3 | 2 | V | - | ~ | ~ | <u> </u> | | <u></u> | | | 156.78 | ~ | 169.10 | | 169.67 | | ~ | 15663 | 1480 | 7.98 | 0.20 | 18.00 | | 2 |
| 2 | 2 | <u></u> | | <u></u> | | | _ | | | ~ | 8272 | سسا | 98.09 | | 98.08 | ~ | | 82.74 | 0904 | 7.88 | D .DD | 17.97 | 36.3 | 2 |
| 2 | 2 | <u></u> | | ~ | | | - | - | | 1 | 82.71 | ~ | 98.01 | <u></u> | 98.02 | | ~ | 82.72 | 1927 | 17.65 | 6.35 | 18.47 | 35.2 | Sug |
| 1 | 1 | <u></u> | - | | 1/ | | ~ | 1 | | ~ | 14.23 | ~ | 27.58 | | 27.59 | ~ | - | 14.29 | 0945 | 2.52 | 1.5 | 20.21 | 65.9 | 1 |
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| Side ou | cond run be | enough 5. due to whome | sample bott | u collection | g 10.24.03 |
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Total Volume:



Multi-Port Well Field Data Sheet

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Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: $\frac{\mathcal{H}w-\mathcal{L}}{\mathcal{L}}$ Sampling Zone No.: $\frac{\mathcal{L}}{\mathcal{L}}$

Depth (ft): 5/3,392,322,240+150
Beginning of Session: /4./6

Start Time: 0715
Finish Time: 6954

Date: 10.27.03

| | | | | Surface | Function C | hecks | | | Position Sampler | Sample Collection Checks | | | | | | | | | | | r Quality | Parame | ters |] |
|-----------|----------|-------------|------------------------------------|----------|-----------------------|-------|----------|-----------|---------------------------------------|--------------------------|-------------------|-------------|------------------|---------------|------------------|----------------|------------|-------------------|------|----------|----------------|---------------|-----------------|--------------|
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | | Arm In | Deactivate Set Arm Locate Port | Out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 5 | 1 | ~ | | ~ | ~ | ~ | ~ | ~ | 1 | / | 138.94 | | 197.41 | | 197.41 | V | 1 | 138.94 | 0731 | 6.59 | 8.9 | 22.42 | 40. Z | / / |
| 13 | 2 | <u>~</u> | - | <u></u> | | | | | | 1 | 138.91 | | 197.40 | | P1.39 | L | ~ | 138.94 | 080 | 4.93 | | 22.96 | |] <i>入</i> ; |
| 7 | 31 | / | <u> </u> | 1 | | | | 4 | | V | 86.11 | | 145.04 | | HS.03 | | ~ | 86.20 | | | | 24.91 | | |
| 3 | 2 | ~ | | | <u></u> | ~ | س | | | _ | 55 B | | 115.02 | 1 | 115.03 | | ~ | 35.66 | 0853 | D.32 | 33 | 25.47 | 39.0 | _∫>≥ |
| 12 | 7 | 1 | | <u> </u> | | | | レ | | ~ | 19.90 | | 79.47 | ~ | 19.43 | V | ~ | 19.93 | 0915 | 7.2) | 35 | 25,10 | | >2 |
| Z | 1 | <u> </u> | 1 | 2 | L- | V | ~ | ~ | | _ | 14.24 | 1 | 41.50 | V | 41.47 | ~ | V | | | | 4.3 | 27.89 | 45,0 | >1 |
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| Notes: | Total Volume: |
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Multi-Port Well Field Data Sheet



JPL Pasadena

Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: H 20-24

| | | | | Surface | Function C | hecks | | | Position Sampler | | | | Samp | ole Colle | ection Chec | ks | | | | Wate | r Quality | Paramet | ers | |
|-----------|----------|-------------|------------------------------------|----------|-----------------------|---------|----|-----------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----------------|------------|-------------------|----------|----------|----------------|---------|-----------------|------------|
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. | Cond (mmhos) | |
| 5 | 2 | - | <u></u> | ~ | ١ | 1 | _ | 1 | 1 | | 167.85 | ~ | 214.99 | | 214 99 | ~ | 1 | 167.90 | 0746 | 6.14 | 0.40 | 24.90 | 44.6 | >5 |
| 4 | 2 | ~ | ~ | | | | | 1 | / | / | 113.92 | | 144.78 | ~ | 164.78 | | 1 | 1/3.91 | 0818 | 2.61 | 0.15 | 22.89 | 31.5 | \ . |
| 4 | 2 | <u></u> | <u></u> | レ | | <u></u> | 1_ | <u>~</u> | ^ <u> </u> | / | 1/3.87 | \ | 164.74 | | 164.74 | | ~ | 113.87 | 0909 | 8.64 | 0.45 | 24.65 | 29.8 | , , |
| 3 | 2 | ~ | | <u>ا</u> | 1 | | ~ | ~ | | _ | Le 2.02 | 1 | 114.49 | <u></u> | 114.49 | V | ~ | 62.04 | 0939 | 8.5.3 | 2.8 | 25.28 | 34. 3 | 3 |
| 2 | 2 | <u>٧</u> | <u> </u> | - | | | س | | | ~ | 35.07 | ~ | 87.44 | | 87.68 | ~ | <u> </u> | 35.03 | 1004 | 8.29 | 3.9 | 25.15 | 40.6 | 12 |
| 2 | Z | | <u> </u> | | | | ~ | | | ~ | 14.13 | 1 | 47.62 | ~ | 47.59 | v | | 14.19 | | | 433 | 27.36 | 49.1 | 72 |
| <u> </u> | | | | | | | | | | | | | | | | | | | 1 | 2.93 | 11 | | | / |
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| Notes: 5: Chart Odorno, 4: Chart volono, 3: Chart odones, 2: Chartodones | Total Volume: | |
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Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: <u>HW-28</u>
Sampling Zone No.: <u>5-2</u>

Start Time: 07/9

Depth (ft): 484, 564, 424, 330, +270 Finish Time: 6957

Beginning of Session: 44.00

| | | | | | Function Ch | hecks | | | Position Sampler | | | | Samp | le Colle | ection Chec | ks | | | | Water | r Quality | Parame | ters | 1 |
|-----------|--|-------------|--|---------------|--|--------------|----------|-----------------|--|----------------|--|--|------------------|---------------|------------------|--|------------------------|-------------------|--|----------------------|----------------|--|--|-------------|
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | Valve | Evacuate Container | | | Arm In | Deactivate Set Arm Locate Port | Arm | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | РН | Turb. (NTU) | Temp. | Cond (mmhos) | , |
| 5 | 2 | <u>~</u> | ~ | V | - | L | - | ~ | · - | 2 | 159.65 | - | 2∞. \$5 | ~ | 200.78 | V | | 159.64 | 0736 | 4.43 | 1.2 | 16.67 | 42.0 | 1/2 |
| 4 | 2 | | | <u>ب</u> | <u> </u> | <u> </u> | - | 1 | <i>▶</i> | ~ | 107.40 | | 149.92 | ~ | 149.92 | | ~ | 107.40 | 0805 | 6.51 | 2.8 | 17.98 | 57.7 | ک <u>لا</u> |
| 3 | 2 | 1 | | 1 | | 1 | r | 1 | <u> </u> | <u></u> | 47.27 | | 41.95 | ~ | 91.99 | L | سسا | 46.45 | 083/ | 6.94 | 0.35 | 18.23 | 53.0 | [\Z |
| 12 | 2 | 1 | | <u></u> | | | | | | ايسا | 14.18 | 1 | 50.70 | | 50.70 | <i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i> | ~ | 14.25 | 0858 | 7.28 | 1.2 | 18.59 | 44.4 |]\2 |
| 2 | 2 | | | - | <u> </u> | <u></u> | <u> </u> | 1 | | <u> </u> | 14.17 | | 50.75 | | 50.73 | V | | | | | | 19.61 | | मुशमब |
| 4 | 1- | 1 | | ~ | L | | | - | <u> </u> | 1 | 14.16 | ~ | 24.43 | ~ | 24.41 | | V | 14.19 | 0948 | 7.41 | 0.50 | 22.02 | 46.2 | _ |
| - | —′ | | , | ' | | | \vdash | igwdapprox | | -' | ' | ' | | | | | <u> </u> | | igsquare | <u> </u> | | <u> </u> | <u> </u> | _ |
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| Notes: | | | | | | | Total Volume: |
|------------|---------|---------------|---------------------------------------|-----------|-----------|-----------------|---------------|
| 3: Clear 1 | Odoles, | 4: Clear + 00 | tales, 3 | · Clear + | ochoules. | 2: Clian I adam | <u></u> |
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Multi-Port Well Field Data Sheet

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| v. – | · acaacı | |

Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: MW-19

Date: 10.29.03

Sampling Zone No.: 5-/ Start Time: 1048

Depth (ft): 498 ff, 444, 392, 314, 242 Finish Time: 1320

Beginning of Session: 14.04

End of Session: 17.08

| | | | , | Surface | Function Cl | hecks | | | Position Sampler | | | | Samp | ole Colle | ection Chec | ks | · <u></u> | - | | Wate | r Quality | Parame | ters | |
|----------|----------|-------------|------------------------------------|---------|-----------------------|---------|----|-----------|--------------------------------------|------------|-------------------|-----|------------------|-----------|-------------|----------------|------------|-------------------|-------|----------|----------------|--------|-----------------|---------------|
| # | Run # | Shoe Out | Vacuum Check Valve Closed | Valve | Evacuate Container | | in | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Out | Zone Pressure | _ | | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. | Cond (mmhos) | |
| 5 | 2 | _ | _ | ~ | レ | 1 | ~ | | | ~ | 82.3- | | 103.10 | | | | | | | <u> </u> | | | | -\ |
| | | | | | | | | | | | 81.49 | ~ | 160.37 | - | 160.39 | | - | 81.50 | 1109 | 261 | 13.7 | 21.54 | 2.1 8 | Z |
| 7 | 2 | <u></u> | | | _ | | ~ | | | ~ | 52.92 | v | 137.02 | ~ | 137.01 | V | | 57.92 | 1134 | 1.80 | 112 | 21.70 | | Źγ |
| 3 | 1 | ~ | | - | 1 | 1 | | | | ~ | 35.23 | ~ | 115.60 | | 115.62 | | V | 35. 22 | 12.00 | 7.55 | 8.61 | 22.61 | | $\langle \ '$ |
| 3 | 2 | ~ | レ | | 1 | 1 | ~ | - | ~ | | 35.18 | V | 115.59 | | 115.62 | | V | 35.14 | 1224 | 122 | 5.91 | 21.89 | 92.9 | > |
| 2 | 2 | ~ | | ~ | ~ | <u></u> | 1 | <u>ر</u> | | 1 | 14.14 | ~ | 81.48 | V | 81.46 | V | V | 14.21 | 1247 | 7.32 | 38.9 | 23.81 | 0.1 | 575 th |
| 2 | 2 | | | 1 | <u></u> | | رز | | اسا | 1 | 14.11 | ~ | 50.47 | 1 | 50.44 | | - | 14.18 | | | | 24.88 | | 51 |
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| Notes: | | | | light |
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| 5: Clear & odlovers | , 4: Clear + octobers, | 3: Che | + poloulism | 2: Cles burnsich |
| getton + volation, 1 | : Ullowish brown Lodaler | ∞ | |) = Cost Calora (Mars) |
| 0 ' | 0 | | | |

Total Volume: _



Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: Hw-21

Sampling Zone No.: 5-1

Start Time: 0253 Finish Time: 102.3

Date: 10.30.03 Page: / Oz

Depth (ft): 372, 3/0, 240, 16/ + 90 # Beginning of Session: 14.09

| | | | | | | | | | | | | | | - | | | | | | | | | | |
|-----------|-------------|--|------------------------------------|---------|-----------------------|---------|------------|--|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----------------|------------|-------------------|------|----------|----------------|---------------|-----------------|----------|
| | | | r | Surface | Function C | hecks | | | Position Sampler | | | | Samp | ole Colle | ection Chec | ks | | | | Water | Quality | Parame | ters |] |
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | Shoe in | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 5 | 2 | V | | <u></u> | ~ | W | 1 | - | | - | 129. 41 | - | 150.39 | 1 | 150.38 | ~ | 1 | 129.61 | 0010 | 2. /2 | 7 | 18 72 | Q= 1 | 1、 |
| <u>4</u> | 2 | | _ | <u></u> | | - | ~ | - | سس | <u>ا</u> | 103.23 | | 123.55 | | 123.54 | | ~ | 102.72 | 0833 | 2-29 | 0.25 | 12.70 | 26. 2 | 人. |
| ₹_ | 2 | 1 | | 1 | <u></u> | <u></u> | <u></u> | V | レ | ~ | 102.72 | ~ | 123.55 | | /23.55 | | <u></u> | 102.63 | 0859 | 4.76 | 1.0 | 18.51 | 25.3 | |
| <u>~</u> | 2 | 1 | | - | | - | | 1 | سس_ | | 72.53 | V | 93.66 | | 93.26 | - | | 12.47 | 0919 | 2.11 | 1.4 | 19.14 | 0.090 | 53 |
| 2 | 2 | | 1/ | ~ | سا | 1_ | 1 | <u></u> | <u></u> | سا | 38.01 | 1 | 59.47 | ~ | 59.48 | ~ | ~ | 38.09 | 0940 | 7.33 | 1.3 | 18.44 | 0.103 | \ |
| 2 | 2 | | <u></u> | - | <u></u> | <u></u> | - | <u> </u> | | <u></u> | 14.11 | <u>٧</u> | 28.28 | <u></u> | 28.26 | ســـــ | ~ | 14.18 | 1064 | 2.33 | 6.8 | 21.48 | 93.7 | نـدا |
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| | Notes: 5: Clear + octobers, 4: Clear + odorless, 3: Clear + odorless, 2: Clear + odorless | Total Volume: | |
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Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008 Delivery Order #: 0001

Water Pressure Inside Casing:

| Well | IDHW- | 3 |
|------|-------|---|
| | | |

Sampling Zone No.: 5-3 Start Time: 0742

Depth (ft): 653,558, 346,2521172 Finish Time: 0911

Beginning of Session: 14.12

| | | | | Surface | Function C | hecks | | | Position Sampler | | | | Samp | ole Colle | ection Chec | cks | | | | Wate | r Quality | Parame | ters | 1 |
|-----------|----------|-------------|------------------------------------|---------|-----------------------|-------|---|-----------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----------------|--|---------------------------------------|------|------|----------------|---------------|-----------------|---|
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 5 | 2 | 2 | レ | | - | - | - | L | | 1 | 180.60 | 1/ | 247.50 | 1/ | 247.50 | 1_ | | 180.75 | M-0 | 1 24 | 1 | 1/ 53 | 2/5 1 | 1 = |
| 4 | 2 | 4 | v | 4 | U | - | c | - | | 1- | 139.30 | 1 | 206.53 | | 206.54 | | - | 139.29 | 0820 | 2.91 | 17 | | 73.1 | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| 3 | 2 | 2 | <u>_</u> | ا | <u>_</u> | - | | | <u> </u> | - | 46.95 | -سا | 117.69 | | | V | | 46.98 | 0873 | 6.20 | 1.7 | | 41.3 | 3 |
| 2 | 2 | ~ | | | 4 | - | - | - | | | | rich | out | | | dan | | 70.78 | - | 0.01 | /. [| 13.78 | 77. 3 | 7.3 |
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| Notes: 5: mudium oda of Lieser + color-, 4: Slight oda + clear, 3: styr Slight odar + cha | Total Volume: |
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Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008

Delivery Order #: 0001

Well ID: <u>州ル・/</u> Sampling Zone No.: <u>5-/</u>

Start Time: 06.59

Date: 11・4・03

Page: 1 Q

Depth (ft): 540, 456, 382, 277 126 7 Finish Time: 0847

Beginning of Session: 14.07 Water Pressure Inside Casing: End of Session: 14.15

| | | | | Surface | Function Cl | necks | | | Position Sampler | | | | Samp | le Colle | ection Chec | ks | | | | Water | Quality | Paramet | ters | } |
|----------|-----------|-------------|------------------------------------|----------|-----------------------|----------|------------|-----------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----------------|-------------|-------------------|------|-------|----------------|---------------|-----------------|-----|
| # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | Shoe in | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 5 | 2 | ~ | <u></u> | - | \ | ₩ | 1 | レ | <u></u> | ~ | 146.87 | ~ | 177.28 | . ~ | 177.21 | ~ | ~ | 146.82 | MIL | 5.59 | 1.2 | 12.82 | 524 | >5 |
| 4 | 2 | ~ | | ا | \ | 1 | | - | <u></u> | ~ | 110.10 | | 140.76 | | 140.74 | | | | | | | 16.24 | | 1 |
| > | 2 | ~ | | ب | | ~ | ~ | | · ~ | | 12.79 | ~ | 108.68 | | 1.8.65 | <u></u> | V | 77.89 | 0254 | 4.54 | 0.45 | 1235 | 951 | 53 |
| 2 | 2 | <u></u> | | | <u> </u> | | | - | | ~ | 32.14 | ~ | 43.02 | | 43.03 | V | 1 | 32.13 | 0815 | 203 | 2.2 | 12.20 | 0.1 | 12 |
| 2 | 2 | レ | | - | <u> </u> | | <u>ــ</u> | | | ١ | 14.23 | 1 | 32.74 | | 32.74 | | 14 | 14.31 | 0878 | 7.41 | 15 | | 0.094 | 152 |
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| Notes: 5: very slight H. Soden + clim, 4: clean + no odor, 3: clean + odorless, 2: clean + odorless 2: clean + odorless | Total Volume: |
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Multi-Port Well Field Data Sheet

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JPL Pasadena

Contract #: N68711-01-D-6008

Water Pressure Inside Casing:

Delivery Order #: 0001

Well ID: MW-17

Sampling Zone No.: 5-1

Depth (ft): 726,882,468,370,250 A

Start Time: <u>D93</u> Finish Time: <u>//5</u> 3

Beginning of Session: 14.14

| | | | | Surface | Function C | hecks | | | Position Sampler | | | | Samp | ole Colle | ection Chec | cks | | <u> </u> | | Water | Quality | Paramet | ters | |
|-----------|----------|-------------|------------------------------------|---------|-----------------------|-----------------|------------|-----------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|---------|------------|-------------------|------|-------|----------------|---------------|-----------------|--------------|
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | Valve Closed | Shoe in | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 5 | 1 | 7 | <u> </u> | - | レ | ~ | レ | レ | └ | 1 | 167.37 | V | 237.4 | 1 | 237.74 | ~ | | 147.37 | 0948 | 7.97 | 45 | 233 | 31.0 | >2 |
| 4 | 7 | | | | ~ | - | <u></u> | | <u></u> | ~ | 103.33 | Had | 10100 | e po | - * | | | | | | | | | 1 |
| 4 | 1 | | | | | | | | | | 104.75 | <u></u> | 174.27 | <u></u> | 177.24 | <u></u> | 1 | 104.19 | 1015 | 7.95 | 1.6 | 18.57 | 29.7 | ؛ <i>د</i> [|
| 3 | 2 | 1 | | | | - | | - | | 1 | 55.01 | | 122.01 | <u>ب</u> | 121.94 | | 2 | 55.02 | 1039 | 7.92 | 11 | 12.27 | 43.6 | <u>~</u> |
| 3 | 2 | 1 | | レ | <u></u> | - | <u></u> | <u></u> | | ~ | 54.97 | | 121.83 | 1 | 14.19 | | | 54.98 | | | | | 44.5 | 250 |
| 2 | 2 | 1 | <u></u> | اسا | <u>ر</u> | 1 | <u>ب</u> | <u></u> | | | 14.31 | ~ | 82.95 | سا | 82.93 | V | 1 | 14.34 | 1123 | 7.90 | 1.9 | 17.90 | 57.0 | 2 |
| 1 | 1 | 1 | | ~ | <u></u> | | <u></u> | - | <u> </u> | | 14.25 | <u></u> | 32.01 | -سا | 32.99 | <u></u> | - | 14.29 | 1145 | 7.94 | 2.7 | 17.44 | 42.8 |]>1_ |
| | | | | | | <u> </u> | | | | | | | · | | | | | | | | | : | | |
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| Notes: . (pall) | | Total Volume: |
|---|-----------------------------|---------------|
| 5: cloudy, light yellow + odalless, 4: clear + odolless | 3: light brown + ordarders, | 701411101 |
| Z: clear & odaliso 1: clear & odalis | Code promit 4 Olimans | |
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Water Pressure Inside Casing:

Groundwater Sampling

Multi-Port Well Field Data Sheet



JPL Pasadena

Contract #: N68711-01-D-6008

Delivery Order #: 0001

Well ID: MW-3

Sampling Zone No.: 2 +1

Depth (ft): 2521/72
Beginning of Session: 14.17
End of Session: 14.20

Start Time: <u>b7b7</u>
Finish Time: <u>b818</u> Date: 1/ · 5 · 03

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|-----------|--|-------------|------------------------------------|----------|-----------------------|----------|------------|-----------|--------------------------------------|------------|-------------------|-------------|------------------|---------------|------------------|----------------|--|-------------------|----------|-----------|----------------|---------------|-----------------|--------|
| | | | | Surface | Function C | hecks | | | Position Sampler | | | | Samp | ole Colle | ection Chec | cks | | | | Wate | r Quality | Parame | ters | |
| Port # | Run # | Shoe Out | Vacuum Check Valve Closed | | Evacuate Container | | Shoe in | Arm In | Deactivate Set Arm Locate Port | Arm out | Pressure in MP | Shoe Out | Zone Pressure | Open Valve | Zone Pressure | Close Valve | Shoe In | Pressure in MP | Time | PH | Turb. (NTU) | Temp. (oC) | Cond (mmhos) | |
| 2 | 2 | ~ | ~ | ν | ~ | ~ | ~ | 1 | 1 | ~ | 14.30 | ~ | 74.05 | ~ | 74.05 | | 1 | 14.41 | 6724 | 5.94 | 2.2 | 14.62 | 44.5 | 2 |
| 1 | 1 | 1_ | <u></u> | <u> </u> | 1 | <u></u> | <u></u> | <u>~</u> | <u> </u> | 2 | 14.23 | - | 14.93 | | www | Spu | E | | | | | | | N . |
| 2 | 2 | | | | | | | | | | 14.24 | 1 | 41.32 | | 41.31 | <u></u> | V | 14.33 | 0748 | 4.95 | 5.4 | 14.49 | 0.995 | 1 3 |
| 2 | 2 | _ | / | 1 | | <u> </u> | - | - | | 2 | 14.00 | <u></u> | 41.27 | <u></u> | 41.27 | | 2 | 14.33 | 0808 | 4.84 | 23 | 15.20 | 45.8 | 13 |
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| Notes: 2: Clear + October, 1: Cloudy + October | Total Volume: |
|---|-------------------|
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